

## ABSTRACT OF THE DISCLOSURE

A coil section 18 formed as a portion of a gate wire 16 of an IGBT 10 is wound around and electrically insulated from a main current circuit wire 17. One end of the coil section is connected to a gate terminal 12, while the other end thereof is connected to a gate bias power source 15 to induce an electromotive force based only on a main current of the IGBT. Thus, a gate bias is controlled by utilizing the electromotive force produced on the coil section according to a time variation of the main current, thereby suppressing an over-current in a power module.